

IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) ~~A method~~ Method for data repair in a system capable of one-to-many transmission, the method comprising:
transmitting data from a sender to at least one receiver in a one-to-many fashion;
providing sender driven or receiver driven repair of missing data, concerning data missing at the receiver, wherein both the sender driven and receiver driven repair comprise sending a repair request from said receiver to said sender, and wherein the method further comprises:
distributing messaging concerning repair over a period of time to avoid congestion.
2. (Original) The method of claim 1, wherein repair is implemented in a repair session comprising one of the following:
re-transmitting missing data in total;
re-transmitting only a part of missing data; and
repeating original transmission in a whole.
3. (Original) The method of claim 1, wherein an error rate parameter is transmitted from sender to receiver to be used as a threshold in requesting repair of missing data.
4. (Original) The method of claim 3, wherein said error rate parameter is used to calculate the threshold in a time and/or data window.
5. (Original) The method of claim 1, wherein the method comprises indicating to receivers that a session or part of it will be re-transmitted in a point-to-multipoint fashion.

6. (Original) The method of claim 5, wherein said indication is implemented with the aid of a point-to-multipoint repair token.
7. (Original) The method of claim 1, wherein the method comprises generating random or pseudo-random time dispersion of repair requests to be sent from receiver(s) to sender.
8. (Original) The method of claim 7, wherein the method provides for statistically uniform distribution over a relevant period of time.
9. (Original) The method of claim 1, wherein the method comprises using receiver roles.
10. (Original) The method of claim 9, wherein one or more of the roles comprise a back-off time given by offset time and random time period.
11. (Original) The method of claim 9, wherein one or more of the roles comprise flag-holder behaviour.
12. (Original) The method of claim 1, wherein the method comprises sharing time parameter(s) and/or data parameter(s) and/or error parameter(s) between sender and receiver by pre-configuring.
13. (Original) The method of claim 1, wherein the method comprises indicating from server to receiver, after receipt of a repair request, that repair will be performed only later.
14. (Original) The method of claim 1, wherein the method comprises prioritizing between different repair methods.

15. (Original) The method of claim 14, wherein the method comprises first starting point-to-multipoint repair followed by point-to-point repair.
16. (Original) The method of claim 1, wherein the method comprises using an initiation point for repair sessions/signalling, said initiation point being selected from a group comprising: end of a session, object end, object threshold and end of a session group.
17. (Original) The method of claim 1, wherein the method comprises delaying sending of a repair request at the receiver.
18. (Original) The method of claim 1, wherein said repair request is delayed with a pre-determined amount of time.
19. (Original) The method of claim 1, wherein a repair request is performed only when the need to consume the data at the receiver arises.
20. (Original) The method of claim 1, wherein a maximum repair availability time is provided.
21. (Original) The method of claim 19, wherein the method further comprises taking into account a position of a first loss in data stream.
22. (Original) The method of claim 1, wherein a recovery time is calculated and used in missing data repair.
23. (Original) The method of claim 1, wherein a separate repair session is requested and/or started before an initial multicast/broadcast transmission has ended.
24. (Original) The method of claim 1, wherein the method comprises calculating a

repair request suppression time to wait before requesting repair.

25. (Currently Amended) ~~A receiver device for data repair in a system capable of one-to-many transmission, the receiver device~~ Apparatus comprising:

means for receiving data transmitted by a sender; and in a one-to-many fashion;

means for sender driven or receiver driven repair of missing data, concerning data missing at the receiver device; means for sending a repair request to the sender; and

means for distributing messaging concerning repair over a period of time to avoid congestion.

26. (Currently Amended) ~~A sender device for data repair in a system capable of one-to-many transmission, the sender device~~ Apparatus comprising:

means for transmitting data to at least one receiver; and in a one-to-many fashion;

means for sender driven or receiver driven repair of missing data, concerning data missing at the receiver;

means for receiving a repair request from the receiver; and

means for distributing messaging concerning repair over a period of time to avoid congestion.

27. (Currently Amended) ~~A system capable of one-to-many transmission, the system comprising a sender device, a network and at least one receiver device, the system~~ System comprising:

means for transmitting data from said sender device, via said network, to said at least one receiver device; and in a one-to-many fashion;

means for providing sender driven or receiver driven repair of missing data, concerning data missing at the receiver device;

means for sending a repair request from the receiver to the sender; and
means for distributing messaging concerning repair over a period of time
to avoid congestion.

28. (Currently Amended) ~~A software application~~ Computer readable medium
having stored thereon a computer program executable in a receiver device ~~for~~
~~data repair in a system capable of one-to-many transmission,~~ the software
~~application computer program~~ comprising:

program code for causing the receiver device to receive data transmitted
by a sender in a one-to-many fashion; and

program code for sender driven or receiver driven repair of missing data,
concerning data missing at the receiver ~~device~~ device, wherein both the sender
driven and receiver driven repair comprise sending a repair request from the
receiver to the sender; and

program code for distributing messaging concerning repair over a period
of time to avoid congestion.

29. (Currently Amended) ~~A software application~~ Computer readable medium
having stored thereon a computer program executable in a sender device ~~for~~
~~data repair in a system capable of one-to-many transmission,~~ the software
~~application computer program~~ comprising:

program code for causing the sender device to transmit data to at least
one receiver in a one-to-many fashion; and

program code for sender driven or receiver driven repair of missing data,
concerning data missing at the receiver, wherein both the sender driven and
receiver driven repair comprise sending a repair request from the receiver to
the sender; and

program code for distributing messaging concerning repair over a period
of time to avoid congestion.

30. (New) Apparatus, comprising:

a receiver for receiving data transmitted in a one-to-many fashion by a sender device, wherein the apparatus is configured for sender driven or receiver driven repair of missing data, concerning data missing at the receiver device, the apparatus further comprising:

a transmitter for sending a repair request to the sender device, wherein the apparatus is further configured for distributing messaging concerning repair over a period of time to avoid congestion.

31. (New) The apparatus of claim 30, wherein the apparatus is configured to use an error rate parameter received from the sender device as a threshold in requesting repair of missing data.

32. (New) The apparatus of claim 30, wherein the apparatus is configured to use a receiver role or roles.

33. (New) The apparatus of claim 30, wherein the apparatus is configured to delay sending the repair request with a pre-determined amount of time.

34. (New) The apparatus of claim 30, wherein the apparatus is configured to perform said repair request only when the need to consume the data at the apparatus arises.

35. (New) The apparatus of claim 34, wherein the apparatus is configured take into account a position of a first loss in a data stream.

36. (New) The apparatus of claim 30, wherein the apparatus is configured to calculate a recovery time to be used in said repair of missing data.

37. (New) The apparatus of claim 30, wherein the apparatus is configured to

request a separate repair session and/or a separate repair session to be started before an initial multicast/broadcast transmission has ended.

38. (New) The apparatus of claim 30, wherein the apparatus is configured to calculate a repair request suppression time to wait before requesting repair.

39. (New) Apparatus, comprising:

a transmitter for transmitting data in a one-to-many fashion to at least one receiver device, wherein the apparatus is configured for sender driven or receiver driven repair of missing data, concerning data missing at a receiver device, the apparatus further comprising:

a receiver for receiving a repair request from said receiver device, wherein the apparatus is further configured for distributing messaging concerning repair over a period of time to avoid congestion.

40. (New) The apparatus of claim 39, configured to transmit to a receiver device an error rate parameter to be used as a threshold in requesting repair of missing data.

41. (New) The apparatus of claim 39, configured to indicate to said receiver device that a session or part of it will be re-transmitted in a point-to-multipoint fashion.

42. (New) The apparatus of claim 41, configured to so indicate with the aid of a point-to-multipoint repair token.

43. (New) The apparatus of claim 39, wherein the apparatus is configured for using receiver roles.

44. (New) The apparatus of claim 39, configured to first start point-to-multipoint repair followed by point-to-point repair.

45. (New) The apparatus of claim 39, configured to use an initiation point for repair sessions/signalling, said initiation point being selected from a group comprising: end of a session, object end, object threshold and end of a session group.
46. (New) The apparatus of claim 39, wherein the apparatus is configured to provide a maximum repair availability time.
47. (New) The apparatus of claim 39, configured to start a separate repair session before an initial multicast/broadcast transmission has ended.